

REVIEWS.

A TEXT-BOOK OF BIOLOGY. FOR STUDENTS IN GENERAL, MEDICAL AND TECHNICAL COURSES. By WILLIAM M. SMALLWOOD, M.D., Professor of Comparative Anatomy, Syracuse University. Third edition. Pp. 360; 235 illustrations and 8 plates in colors and monochrome. Philadelphia and New York: Lea & Febiger.

THIS is a modern college text-book, designed to supplement the laboratory courses in elementary zoölogy and botany. With the raising of entrance requirements to medical schools there have appeared books adapted to the new regulations. Perusal of this text will serve to give a good conception of what is being taught to the premedical student in general biology. Part I consists of information about the plants and animals studied in the laboratory, *e. g.*, paramecium, hydra, earthworm, clam, crayfish, bee and frog of the animal kingdom, and pleurococcus, yeast, algæ, fungi and trillium of the vegetable kingdom. Then follow chapters on such topics as biological factors in disease, evolution, variation and heredity, parasitism and symbiosis and animal behavior and its relation to the mind. In these are introduced many illustrative cases, which are of interest to the medical man and which should be important in molding the viewpoint of the student preparing to enter on the study of medicine. Thus under heredity is introduced the geneological tree of the Mampel family, showing the sex-linked character of hemophilia, while a diagram and photograph serve to show how sewage pollution of an oyster bed led directly to the participants at a banquet becoming the victims of typhoid fever. Although laboratory work is the main method for the training of the student in the sciences, such a book as this must serve to stimulate his interest.

W. H. F. A.

APPLIED ANATOMY AND KINESIOLOGY. By WILBUR PARDON BOWEN, M.S., Professor of Physical Education, Michigan State Normal School, Ypsilanti, Michigan. Second edition. Pp. 334; 197 illustrations. Philadelphia and New York: Lea & Febiger, 1919.

THIS volume is one of the Physical Education Series edited by R. Tait Mackenzie, Major, Royal Army Medical Corps, and pro-

fessor of physical education and physical therapy, University of Pennsylvania, Philadelphia. Kinesiology is the science of bodily movement and includes a study of the principal types of muscular exercise. Applied anatomy here has reference to the application of such study to the work done by muscles and the effect upon them of such work. Applied anatomy, without any associated and qualifying term, by custom, has come to be used in reference to the more general application of our knowledge of anatomy to the everyday practice of physicians and surgeons, especially to that of the surgeon. While the book is of interest to the average physician, it is probably of more interest to and intended for instructors in physical education. It involves a comparative study of the anatomy, physiology and mechanics of muscles as well as their pathology, therapeutics and hygiene. In undertaking this physical-education series the editor aims to place physical education on the plane that its importance and dignity demand. The general principles of muscular structure and action are considered, the effect of the muscles on the bones and the relation of the nervous system to the muscles. Each muscle in turn is studied individually as well as the various mass actions in the different parts of the body in relation to gymnastic exercises, games and sports, etc. The special knowledge here offered is of much service now in the treatment of the crippled limbs of our returned wounded soldiers. T. T. T.

MESS OFFICERS' MANUAL. PREPARED BY SEVERAL OFFICERS OF THE DIVISION OF FOOD AND NUTRITION OF THE MEDICAL DEPARTMENT, U. S. ARMY. Pp. 192; 3 illustrations. Philadelphia and New York: Lea & Febiger, 1919.

A MANUAL which presents a myriad of facts concerning all phases of mess management in logical order, it is a book which would be of assistance in managing the messing of any number of people. However, this is not a book which can be handed to an untrained individual, for the use of terms dealing with physiological chemistry involves an otherwise simplified presentation of a great need which this book fulfils. W. B.

DE L'ORTHOPÉDIE INSTRUMENTALE. By DR. GABRIEL BIDOU. Pp. 132; 20 figures. Paris (no publisher's name), 1919.

THIS little book treats in an elementary way of prosthetic appliances for cripples, paralytics, stiff joints, etc. It comes furnished, with a ready-made "review," on the stationery of the "Orphan-Apprentice School," 40 rue La Fontaine, Paris; the author's card

is attached, with the manuscript notation that he will be grateful for the publication of this "*vient de paraître*."

The author discusses at some length the mechanics of locomotion, and while this portion of his work is of interest, there is little that is new suggested either in theory or practice. He employs an apparatus with a shoulder strap to flex the impotent thigh upon the trunk, and for artificial limbs prefers the use of celluloid sockets, with cords to manipulate the joints by leverage over pulleys of different diameters. It may be said that the apparatus usually employed in this country is simpler in construction and equally efficient.

A. P. C. A.

MILK. By PAUL E. HEINEMAN, Ph.D., Director of the Laboratories of the United States Standard Serum Company. Pp. 684; 172 illustrations; Philadelphia and London: W. B. Saunders Company, 1919.

THIS book is a rather important addition to medical literature. As far as the knowledge of the reviewer goes it is unique in that it is the only volume devoted entirely to the subject of milk. It is undoubtedly of importance that milk should be carefully considered, and it behooves the medical profession to be possessed of complete understanding of what is and what is not sufficiently good milk for human use. In order to appreciate this question, milk must be followed from the time of its production to its consumption, and in Dr. Heineman's book we find such consideration.

In the first chapter is an interesting historical review of milk and milk products. Butter was used at least as early as 2000 B.C., and the churn has been a constant companion of man throughout his forward struggle. All that is known about the physiology of lactation will be found in a chapter on that subject. The space does not allow a critical analysis of the pages devoted to the physical properties of milk, the physical and chemical examination and the general chemistry, suffice it to say that they are unusually complete.

While adulterations and preservatives are no longer commonly used, they are not forgotten, and their detection by means of tests is outlined. Enzymes in milk and the transmission of toxins through milk occupy two short chapters. Very important is that section of the book devoted to the microorganisms in milk. Here the whole subject of the care of milk enters in. The cow, the dairy, the method of milking, the shipping and numerous other phases of getting clean milk and keeping it clean are studied. The illustrations are plentiful and good in this connection. Milk-borne infections are of enough importance to demand a long chapter. A chapter on pasteurized milk follows immediately after one on certified milk. The reviewer suggests that certified milk, while undoubtedly the

best milk to use, should not always be used unpasteurized. This is especially true in the summer when there is any question of delayed or imperfect transportation. Then milk should be pasteurized even though produced under ideal circumstances.

An all-too-short chapter is included on milk in relation to infant-feeding. This is ably written by Drs. Abt and Levinson. The author does not forget the milk products, butter and cheese, and accords them each a chapter. One also finds several other subjects considered, such as ice-cream and ices, condensed milk and milk from mammals other than the cow. A. G. M.

PROBLEMS OF FERTILIZATION. By FRANK RATTRAY LILLIE, Professor of Embryology, University of Chicago. Pp. 278; 18 illustrations. Chicago: University of Chicago Press, 1919.

FERTILIZATION is here regarded as a reaction possessing very definite biological and biochemical characters. In this volume all available experimental data on these characters are collected by a leading investigator in this new field, together with a full discussion of divergent views. The forms used for studying fertilization problems have been mostly marine invertebrates, where both eggs and sperm are shed into the sea-water and where the process of the union of the cells can be followed in great detail and where experimental alterations in chemical constitution, temperature, etc., of the surrounding medium can be readily introduced. The bulk of the work has been done by Americans, and for the most part carried out at the Marine Biological Laboratory at Wood's Hole. The author believes that the head of the sperm contains all the substances necessary for fertilization in spite of the fact that in many forms the entire sperm enters the egg. Although motile activity of the sperm seems necessary for entrance into the egg, it is found that not all sperm which still show motility have fertilizing power. Because Waldeyer found spermia retaining their motility in the human genital tract for three weeks, it has been assumed that they also retained their fertilizing power for that period. But these experiments on lower forms bear out the more recent view of Bryce and Teacher, that about forty-eight hours is the limit of time that human sperm retains the power to fertilize. Most interesting are the author's views on egg secretions and their effect on the activity of the sperm. The effects of the presence of the eggs on the sperm are activation, aggregation and agglutination. An egg secretion, which he names fertilizin, can be dissolved from the egg, and this watery extract produces the same effects as the presence of the eggs themselves. So in fertilization he sees a three-body reaction where the substance borne by the sperm corresponds to

the antigen, the fertilizer to the amboceptor and a substance contained in the egg corresponds to the complement. This conception satisfactorily fits many points in the experimental data, but much work still remains to be done to thoroughly elucidate the phenomena.

W. H. F. A.

VENEREAL DISEASES. By C. H. BROWNING, M.D., of the Bland-Sutton Institute of Pathology, and DAVID WATSON, M.D., of Glasgow University. Pp. 336; 75 illustrations (26 in colors). London: Oxford University Press, 1915.

THIS admirable little book is introduced by Bland-Sutton, who sounds its keynote, when summarizing, in the most concise way the wonderful progress made in the last quarter century in our knowledge and control of syphilis, and showing that "with every improvement in the methods of investigating disease, knowledge of syphilis has advanced," while "its fell companion, gonorrhea," is likewise equally deserving of the intimate study here given for the tragic role it plays in life's drama.

The book is really a double treatise, the first half being devoted to syphilis and an equal amount to the subject of gonorrhea. It is written throughout in delightful style and carries the reader forward with ease and interest by its simple diction and clearness of presentation. It is hardly necessary to itemize the chapters of the book and their contents; suffice it to say that it is wonderfully thorough and complete in every detail and served by an accurate index. One finds under syphilis not only the clinical manifestations, but valuable and detailed laboratory procedures; under treatment not only drugs and their administration, but interpretations of the stages of the disease and the varying significance of the Wassermann test and how its bearing should be interpreted on future treatment and marriage.

The second portion, devoted to the subject of gonorrhea, is equally thorough in its exposition and in every way up to date. Certain lessons born of war experience in the control of venereal disease, prophylaxis and treatment are entirely new to the literature of the subject. There is really very little the reviewer finds to take exception to in the book: the prophylaxis recommended differs slightly from that practised in the American Army, in that permanganate of potash (1 to 1000), acriflavin (1 to 4000) or silver nitrate (1 per cent.) is recommended in place of the organic silver salts; the condemnation of making a dorsal slit in acute phimosis; the lack of appreciating the advantages of epididymotomy in acute gonorrheal infection (and the rather broad statement that it always causes sterility); the fact that mention is not made of examining the prostatic secretion in the fresh smear; and the poor character

of a few of the illustrations, especially when compared to the excellent quality of the majority, may, however, be mentioned. Three appendices on laboratory methods is an added value.

The work throughout is indicative of men intimately familiar with their subject, and versed in the most modern diagnostic methods and treatments. A. R.

LECTURES ON SEX AND HEREDITY. By F. O. BOWER, J. GRAHAM KERR and W. E. AGAR. Pp. 119; 49 illustrations. London: Macmillan & Co., 1919.

THIS little volume embraces four lectures on the biological problems connected with reproduction in plants and animals and two lectures dealing with the subject of heredity. These lectures were obviously written for the lay audience and contain very little that is not already known to the medical profession. The chapters on heredity are well written and present, in a very clear manner, the major factors concerned in this interesting subject, including Mendel's law. The book will be of value for elementary instruction in biology to academic students. F. B. B.

THE OXFORD MEDICINE LOOSE-LEAF ADVANCE PAGES. Edited by HENRY A. CHRISTIAN and SIR JAMES MACKENZIE, Oxford University Press. Pp. 109 to 341. New York: American Branch, 1919.

THE advanced pages of Parts II and III of Volume I have just reached the subscribers to the Oxford Loose Leaf Medicine. Part II contains a splendid treatise on pathological physiology and its relation to internal medicine, by A. Walter Hewlett. This chapter is an excellent exposition of the subject-matter and bears rereading. Guy Hinsdale discusses hydrotherapy in Chapter IV. Just enough detail is given to make it practical and very entertaining at the same time.

Undoubtedly the best chapter is devoted to the treatment of disease by Sir William Osler. These lines are written in his usually masterful style and are well worth while. It is, as it were, an epitome of the experience of the therapeutic life of this remarkable teacher and doctor. The causes of disease and how they act is well discussed by James Mackenzie. Disease production by all living organisms forms an interesting portion of this chapter. Eugenics in relation to medicine, by Charles B. Davenport, is assigned to Chapter VII. Here the question of heredity receives ample treat-

ment while paragraphs devoted to applied eugenics are worthy of mention. Billings discusses his favorite subject, focal infection, in the last chapter of Part III. Nothing especially new is dealt with, but an old topic is well taken care of by this well-known authority on the subject.

These two parts of Volume I, as the foregoing description indicates, deal with the usual topics taken up in the first volume of a series on medicine. Viewed as a group they are meritorious from any standpoint whatsoever, whether that be up to date, literary or honest scientific value. The loose-leaf idea is an excellent one and the list of contributors for this system includes the best-known names in medicine both in this country and in England. These points should make it a popular system. T. G. S.

THE CANADIAN MEDICAL WEEK. Published under the Auspices of the Ontario Medical Association. Toronto: The Macmillan Company of Canada, Ltd., 1919.

"EVERY person into whose hands this book comes is a patriot. Many of us are not in khaki; the reason that keeps us comfortably in Canada while our country calls are various. Although the reasons of each satisfy his own conscience, they do not excuse him from devoted patriotic effort at home. It is our duty to study our own problems. Be prepared to carry on!"

The Ontario Medical Association has put in permanent form the records of the meeting of the Association which was held in Hamilton, May, 1918. The volume starts with a tribute to those members of the Canadian Universities who paid the "supreme sacrifice" on active service in the present war, and then is followed by the impressive beautiful "Flanders' Fields," by the late Dr. John McCrae. The papers that were presented to the various sections make up the great bulk of the text. Articles in various phases of eye, ear, nose and throat, medical, obstetrical, gynecological and pediatrics, follow, as well as other branches of medicine. The papers are, for the most part, well prepared and well deserve perpetuation in such a volume as the one at hand. J. H. M., Jr.

THE INTERNATIONAL MEDICAL ANNUAL. A YEAR BOOK OF TREATMENT AND PRACTITIONER'S INDEX. Pp. 517. New York: William Wood & Co., 1919.

THE first *International Annual* was published thirty-seven years ago and this 1919 volume, in review, is in every way as comprehensive and as useful as any of the other years. It aims, of course, merely to review the new thoughts concerning diseases and injuries

that have been brought forth during the past year and it very effectively accomplished this purpose. Naturally in this volume considerable space is given to post-war problems. Dr. Hey Groves's and Dr. C. A. Joll's articles on orthopedic surgery and orthopedic appliances are very comprehensive, and Sir Robert Jones's article on manipulative treatment of injuries to joints points out principles that have been accorded general recognition. Fractures and gunshot wounds, surgery of the nerves, surgical shock, neurosis of war, surgery of the abdomen and face are all fully reviewed.

Dr. Carey Comb's article deals with the soldier's heart and lays stress on work carried out under adequate observation as an important factor in bringing about a cure. The recent literature on cerebral fever and influenza is fully considered by Dr. Rolleston. Dr. S. A. Kinnier Wilson writes on encephalitis epidemic. In an instructive article by Dr. C. S. Bacon on the vomiting of pregnancy it is mentioned that alcohol is very valuable, but he cautions against giving it too strong or in too large a quantity. In Dr. Latham's article on pneumonia mention is made of treatment with quinin urea hydrochloride.

Skin diseases and eye diseases are very well covered. Of special interest are Dr. Foster's studies on trachoma. Excellent illustrations accompanying his article on diseases of children receive their just consideration, and very good reviews appear on infant-feeding, marasmus, ileocolitis, diarrhea, tetany, vulvovaginitis, rickets and infectious diseases. Dr. John Comrie gives some excellent diet tables in his article on diabetes, and mention is made of the many contradictory reports as to the value of sodium bicarbonate in the treatment of this disease. Syphilis and gonorrhea are considered, and an interesting page appears on the efforts of soldiers to counterfeited these diseases to secure admission to the war hospitals.

An interesting criticism of the metric system appears in the introduction, and sympathy is expressed for our continental colleagues who are compelled to use that system.

As usual the dictionary of remedies appears, which gives new uses for old remedies and a description of many new remedies.

A very complete index makes reference easy. The volume will prove very useful, indeed, especially to those who have not the time nor the facilities to keep up to date with current medical literature.

C. N. S.

SURGICAL CLINICS OF CHICAGO. Volume III, No. IV. Pp. 287; 117 illustrations. Philadelphia: W. B. Saunders Company, August, 1919.

It has been the reviewer's good fortune to be called upon to report as a reviewer on the *Surgical Clinics* at various times. This last number is, in his opinion, the best turned out in several months.

The first article on peripheral nerve surgery is an extremely interesting and instructive one, coming at a most opportune time. The writer, Lewis, is admirably fitted for writing on the subject, after his experiences in war surgery in the A. E. F. C. P. Nesselrode's article on cranial osteoperiosteal grafts contributes many useful points in technic as well as symptomatology. E. W. Ryerson, in the report on his clinic, demonstrates very ingenious and satisfactory reconstructive methods of surgery on the acromioclavicular and elbow-joints. L. J. Pollock, on brachial plexus lesions, and F. A. Norris and R. S. Reich, on foreign bodies in the tissues contribute articles which complete the war-surgery portion of this number of the *Clinics*.

The remainder of the twenty articles are on civil surgery and are written by such men as A. D. Bevan, Ochsner, Eisendrath, Davis, Kellogg, Speed, Kretschmer and others.

An added feature of interest in the *Clinics* is the universal appearance at the conclusion of each case a report of the ultimate results obtained in the case. This certainly lends weight to the article preceding.

E. L. E.

STERILITY IN WOMEN. By ARTHUR E. GILES, M.D., B.Sc. (Lond.), M.B., Ch.B. (Vict.), F.R.C.S. (Edin.), M.R.C.P. (Lond.), Captain, R.A.M.C. (Temp.), Senior Surgeon to the Chelsea Hospital for Women; Gynecologist to the Prince of Wales's General Hospital, Tottenham. Pp. 196; 11 illustrations. London: Henry Frowde and Hodder & Stoughton, 1919.

WITH the loss of hundreds of thousands of potential fathers in the last few years and the consequent limitation of marriages it has become increasingly important that the marriages which are consummated should be fruitful. In this timely appearing book Giles has presented the causes of sterility in male and female and the measures to remedy the conditions.

The first chapter deals with man's share of the responsibility for childless marriages and includes various detailed tests for determining his procreative ability. The second chapter is a collection of statistical tables and surveys. Following this the bulk of the book takes up the various classifications, types and causes of sterility. Functional, primary, congenital and acquired and secondary sterility are discussed. The author adds to the well-known one-child sterility a section on two-child sterility. The chapter on diagnosis gives an outline well adapted to systematic use. The chapter on treatment is a well-balanced discussion of the various measures which have been found useful. The general bibliography, ten pages in length, dates back to 1609. The book will merit attention from those interested in the subject.

P. F. W.

ATLAS OF OPERATIVE GYNECOLOGY. By BARTON COOKE HIRST, M.D., Professor of Obstetrics, University of Pennsylvania. Pp. 292; 164 plates, 46 figures. Philadelphia and London: J. B. Lippincott Company, 1919.

As the title implies, this book is devoted to the graphic method of describing operations for conditions peculiar to women and in the preparation of the atlas conditions common to both sexes have been purposely omitted. The volume is profusely illustrated with actual photographs as well as drawings from life. In the beginning of the book the author describes in detail his clinic, preoperative preparation, instruments and postoperative care of patients as carried out at the maternity department of the hospital of the University of Pennsylvania. The bulk of the book is devoted to the description of various operative procedures, the text being more or less supplementary to the illustrations. As has been his custom for many years, the author recommends the intermediate repair in perineal lacerations and describes an operation that he has devised and which he terms a "rational perineorrhaphy." The technic of salpingectomy which the author recommends can hardly be accepted with approval, as there is an utter disregard of the ovarian blood supply, and recent investigators have shown this point to be the most important one in the technic. The author's extensive experience with the various methods of performing Cesarean section makes the chapter of the book devoted to this topic a most valuable one, while the chapter on operations upon the mammary gland, which concludes the book, is concise and fits in well with the preceding chapters. To those who have had the pleasure of reading the author's previous publications this work will be a welcome addition.

F. B. B.

CLINICAL CASE-TAKING. By ROBERT D. KEITH, M.A., M.D. (Aherd.), formerly Principal of the King Edward VII Medical School, Singapore; Consulting Physician, Tan Tock Seng's Hospital, Singapore; Lecturer on Clinical Medicine in the King Edward VII Medical School. Pp. 104. New York: Paul B. Hoeber, 1919.

THE little book in hand is written as an elementary guide to students who are just starting the study of clinical medicine. It first deals with the general examination of the patient, including the history. Physical examination and the various systems of the body then follow. The concluding chapter is on laboratory examinations. The book is extremely brief and is limited to the outstanding features of the several conditions that are discussed by the author.

J. H. M., JR.